



RETTEW Associates, Inc.  
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LINE	DESCRIPTION	DISTANCE	DESCRIPTION	MONUMENT
L1	N02°36'07"W	185'	SHL TO REF. PIN	IRON PIN
L2	N80°26'40"W	218'	SHL TO REF. PIN	IRON PIN
L3	N47°34'13"W	192'	SHL TO LANDMARK	POST
L4	N03°24'04"E	1,628'	SHL TO LANDMARK	REBAR
L5	N52°24'43"E	549'	SHL TO LP	
L6	N24°25'24"W	8,587.65'	LP TO BHL	

Latitude: 40°02'30"

TRACT	SURFACE OWNER (S) / ROYALTY OWNER (R)	TAX PARCEL	ACRES
1	EDGE, WILLIAM F. JR. & BARBARA (S)/FLETCHER, JOSEPHINE (R)	12-9-8	87.8±
2	EDGE, WILLIAM F. JR. & BARBARA (S)/FLETCHER, JOSEPHINE (R)	12-9-8.1	28.0±
3	SCHLEIFASE, WANDA A. & ANDREA K. (S/R)	12-1-18	93.8±
4	MILLER, WILET S. (S/R)	12-1-18.3	8.0±
5	FOLMER, OWAN R. & EDITH (S/R)	12-1-19	112.6±
6	CAFFONE, RAYMOND A. & KAREN (S/R)	6-117-15	22.3±
7	COFFIELD, MICHAEL L. & TYLONE R. (S/R)	12-1-13	71.6±
8	HARDMAN, WALTER LEWIS & GLORIA LOUISE (S/R)	12-1-10.1	47.8±
9	BARCLOWICH, STEPHEN (S/R)	12-1-18.4	7.5±
10	BARCLOWICH, STEPHEN (S/R)	12-1-11	48.5±

Longitude: 80°37'30"

2000 0 2000

GRAPHIC SCALE IN FEET

**SURFACE HOLE LOCATION (SHL):**

GEOGRAPHIC (NAD83):  
LATITUDE: 40.006606°  
LONGITUDE: -80.627443°  
UTM (NAD83, ZONE 17, FEET):  
NORTHING: 14,529,357.039'  
EASTING: 1,744,741.682'  
UTM (NAD83, ZONE 17, METERS):  
NORTHING: 4,428,556.883'  
EASTING: 531,798.328'

**"LANDING POINT" LOCATION (LPL):**

GEOGRAPHIC (NAD83):  
LATITUDE: 40.007572°  
LONGITUDE: -80.625798°  
UTM (NAD83, ZONE 17, FEET):  
NORTHING: 14,529,710.820'  
EASTING: 1,745,200.810'  
UTM (NAD83, ZONE 17, METERS):  
NORTHING: 4,428,664.715'  
EASTING: 531,938.271'

**BOTTOM HOLE LOCATION (BHL):**

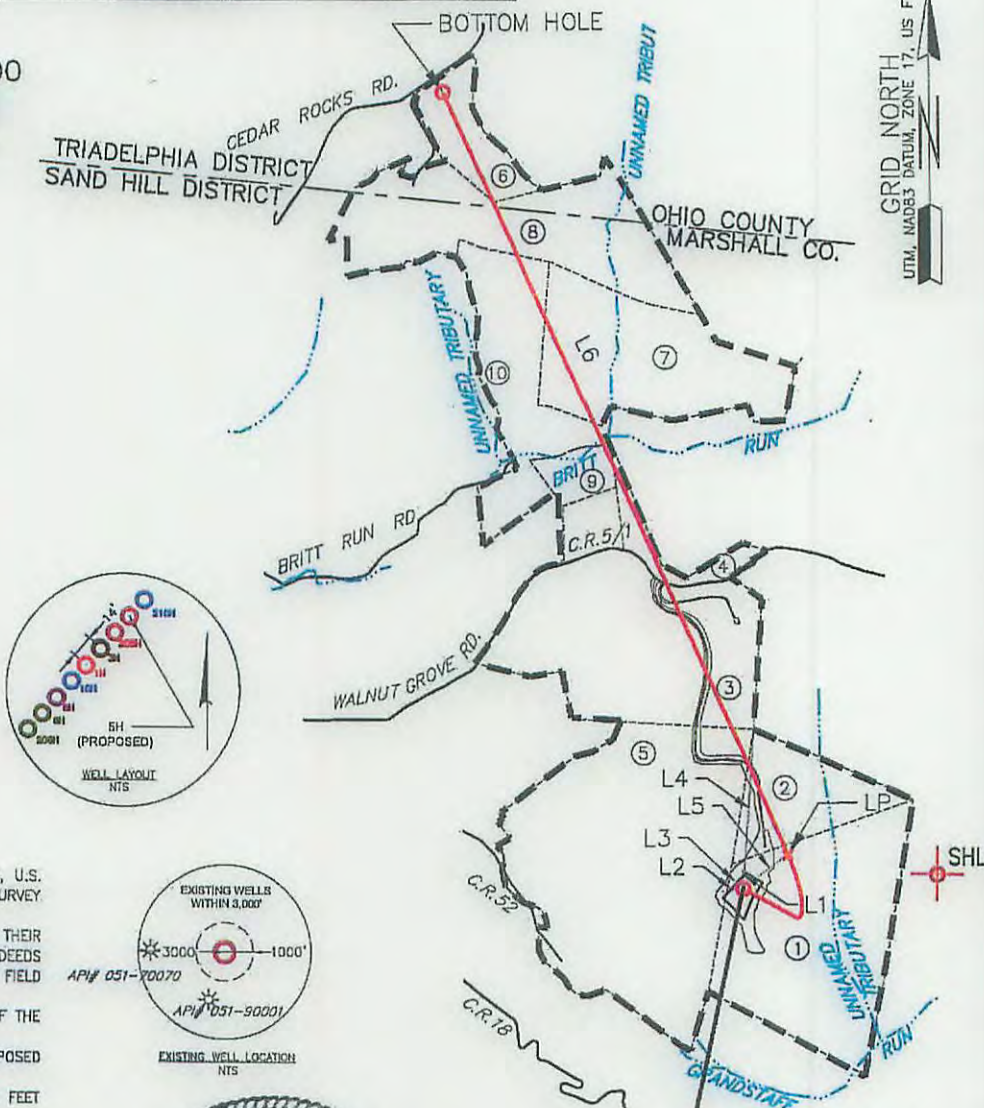
GEOGRAPHIC (NAD83):  
LATITUDE: 40.029085°  
LONGITUDE: -80.638365°  
UTM (NAD83, ZONE 17, FEET):  
NORTHING: 14,537,530.010'  
EASTING: 1,741,650.030'  
UTM (NAD83, ZONE 17, METERS):  
NORTHING: 4,431,048.009'  
EASTING: 530,855.991'

**NOTES ON SURVEY**

- COORDINATES SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
- SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND FIELD LOCATIONS.
- THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
- NO DWELLINGS AND BUILDINGS WITHIN 625 FEET OF PROPOSED CENTER OF PAD.
- NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
- NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
- NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 2313



SWN PRODUCTION COMPANY, LLC  
"BW EDGE MSH 5H"  
SURFACE HOLE  
ELEV: 1,265.60' (1,254.0' DESIGN)

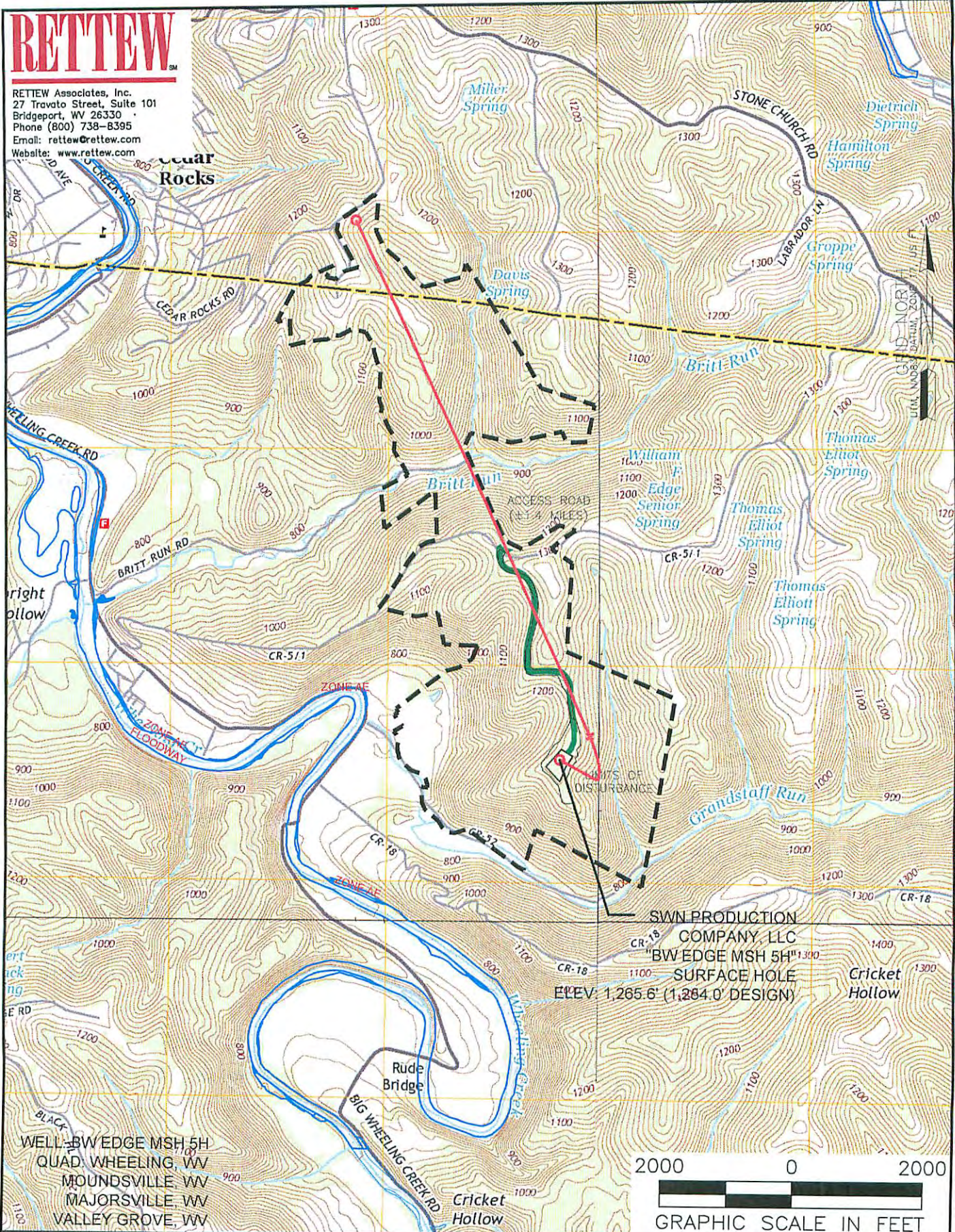
COMPANY: **SWN** Production Company, LLC

	(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS	MINIMUM DEGREE OF ACCURACY: 1/200	OPERATOR'S WELL #: BW EDGE MSH
	WVDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25034	PROVEN SURVEY SOURCE OF ELEVATION: GRADE GPS (NAVD 88, US FT)	OPERATOR'S WELL #: 5H
API WELL #: 47 051 01845 H6A		STATE COUNTY PERMIT	

WELL TYPE: OIL <input type="checkbox"/> WASTE DISPOSAL <input type="checkbox"/> PRODUCTION <input checked="" type="checkbox"/> DEEP <input type="checkbox"/> GAS <input checked="" type="checkbox"/> LIQUID INJECTION <input type="checkbox"/> STORAGE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/>	ELEVATION: 1265.6 (1,254 DESIGN)
WATERSHED: UPPER OHIO SOUTH	QUADRANGLE: WHEELING, WV-OHIO
DISTRICT: SAND HILL COUNTY: MARSHALL	ACREAGE: 87.8 ±
SURFACE OWNER: EDGE, WILLIAM F. JR. & BARBARA	ACREAGE: 115.8 ±
OIL & GAS ROYALTY OWNER: FLETCHER, JOSEPHINE	
DRILL <input checked="" type="checkbox"/> DRILL DEEPER <input type="checkbox"/> REDRILL <input type="checkbox"/> FRACTURE OR STIMULATE <input checked="" type="checkbox"/> PLUG OFF OLD FORMATION <input type="checkbox"/> PERFORATE NEW FORMATION <input checked="" type="checkbox"/> CONVERT <input type="checkbox"/> PLUG & ABANDON <input type="checkbox"/> CLEAN OUT & REPLUG <input type="checkbox"/> OTHER CHANGE <input type="checkbox"/> (SPECIFY)	
TARGET FORMATION: MARCELLUS	ESTIMATED DEPTH: 6,327' TVD 15,433' TMD

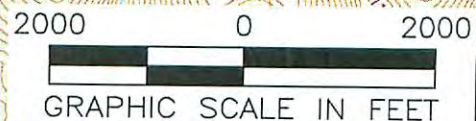
WELL OPERATOR: SWN PRODUCTION COMPANY, LLC	DESIGNATED AGENT: DEE SOUTHALL
ADDRESS: P.O. BOX 1300	ADDRESS: P.O. BOX 1300
CITY: JANE LEW STATE: WV ZIP CODE: 26378	CITY: JANE LEW STATE: WV ZIP CODE: 26378

<b>LEGEND:</b> ○ PROPOSED SURFACE HOLE / BOTTOM HOLE * EXISTING / PRODUCING WELLHEAD ○ ABANDONED WELL ○ PLUGGED & ABANDONED WELL △ CUT CONDUCTOR	<b>REVISIONS:</b> --- LEASE BOUNDARY --- MARCELLUS DHP --- ABANDONED PATH	DATE: 01-11-2016 DRAWN BY: B. HERMAN SCALE: 1" = 2000' DRAWING NO: 078569005 WELL LOCATION PLAT
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**RETTEW**  
 RETTEW Associates, Inc.  
 27 Travato Street, Suite 101  
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 Email: rettew@rettew.com  
 Website: www.rettew.com

WELL: BW EDGE MSH 5H  
 QUAD: WHEELING, WV  
 MOUNDSVILLE, WV  
 MAJORSVILLE, WV  
 VALLEY GROVE, WV



NAME AND DISTANCE TO THE NEAREST STREAM: UNNAMED TRIBUTARY TO GRANDSTAFF RUN IS LOCATED ±0.17 MILES SE OF THE CENTER OF THE DRILL PAD.		STREAM CROSSING COORDINATES (NAD 83): NO NEW CROSSINGS.		COMPANY: <b>SWN</b> Production Company, LLC		<b>SWN</b> <sup>RT</sup> <sup>V+</sup> <sup>+</sup> Production Company™	
WELL RESTRICTIONS: WELL PAD, LOD, & E & S CONTROL FEATURES TO PERENNIAL STREAM, LAKE, POND, RESERVOIR OR WETLAND: >100 FEET WELL PAD, LOD, & E & S CONTROL FEATURES TO NATURALLY PRODUCING TROUT STREAM: >300 FEET WELL PAD, LOD, & E & S CONTROL FEATURES TO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY: >1000 FEET WELL SHL TO EXISTING WATER WELL OR DEVELOPED SPRING: >250 FEET CENTER OF PAD TO OCCUPIED DWELLING STRUCTURE: >625 FEET CENTER OF PAD TO AGRICULTURAL BUILDINGS LARGER THAN 2500 SQ FT: >625 FEET				OPERATOR'S BW EDGE MSH		WELL #: 5H	
FEMA FLOOD INFORMATION: BY GRAPHIC PLOTTING ONLY FEMA FIRM UNINCORPORATED AREA OF MARSHALL COUNTY, WEST VIRGINIA; MAP NUMBER 54051C0019E, EFFECTIVE DATE SEPTEMBER 25, 2009.				LOCATION: SAND HILL DISTRICT, MARSHALL COUNTY, WEST VIRGINIA		SURFACE HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 40.006606° LONGITUDE: -80.627443°	
LEGEND: ○ PROPOSED SURFACE HOLE / BOTTOM HOLE ⊙ EXISTING / PRODUCING WELLHEAD ⊗ ABANDONED WELL ⊗ PLUGGED & ABANDONED WELL △ CUT CONDUCTOR				BOTTOM HOLE LOCATION: GEOGRAPHIC (NAD83): LATITUDE: 40.029085° LONGITUDE: -80.638365°		REVISIONS:	
<ul style="list-style-type: none"> <li>○ EXISTING SPRING</li> <li>⊙ EXISTING WATER WELL</li> <li>— ACCESS ROAD</li> <li>— ACCESS ROAD TO PREV. SITE</li> <li>— HIGHWAY/INTERSTATE</li> <li>— COUNTY ROAD</li> </ul>				DATE: 01-11-2016		DRAWN BY: B. HERMAN SCALE: 1" = 2000' DRAWING NO: 078569005 TOPOGRAPHIC MAP	

01/22/2016